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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,323	03/29/2004	Ahmad R. Ansari	NEC0217C2US	2725
33031 7590 01/22/2007 CAMPBELL STEPHENSON ASCOLESE, LLP 4807 SPICEWOOD SPRINGS RD. BLDG. 4, SUITE 201 AUSTIN, TX 78759			EXAMINER ELLIS, RICHARD L	
			ART UNIT 2183	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/22/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/812,323

Applicant(s)

ANSARI, AHMAD R.

Examiner

Richard Ellis

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claims 28-41 remain for examination.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. The following is a quotation of the first paragraph of 35 USC 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 28-41 are rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a lack of written description rejection.
5. Applicant's amendment of December 8, 2006 has amended all the independent claims to state that the ending address of data to be transferred is determined in part by use of a "memory bus width" where "memory bus width" is taken to mean the size (or width) of the memory bus itself, and not the size of the data values being moved upon that memory bus.

The term "ending address" occurs in applicant's specification in the following location: page 5, lines 4, 9, 15, and 21; page 13, lines 19, 21-22, and 25; and page 23 line 24. In the case of the page 5 and page 23 occurrences, the usage of "ending address" is in the context of what the ending address is used for within the overall invention, and not how to calculate that ending address. Additionally, the term "last entry" occurs only twice in applicant's specification, once at page 13 line 25 and once at page 14 line 4.

The only portion of applicant's specification which provides any teaching as to how to calculate an ending address is page 13 beginning at line 18 to page 14 ending at line 8. The exact language used is as follows:

To ensure that a vector stream does not cross a virtual page boundary, processor 102 determines whether both the beginning and ending addresses fall within the same virtual page of memory 210. Since VTU 138 is provided only with the starting address, the stream length, and the stride, processor 102 calculates the ending address by multiplying the vector length by the stride and adding the result to the starting address (taking into account the appropriate data width) according to the following equation:

Address of last entry = ((Stream length - 1) * Stride * Data width) + Address of

first entry

In another embodiment of the present invention, the size of the streams are restricted to powers of two, which allows the multiplication to be carried out by shifting the stride. The amount of shift is determined by the stream length. When data width is a power of two, the second multiplication inside the parentheses will be a shift operation. The above equation may thus be restated as:

Address of last entry = (Stream Length * Stride * Data Width) + (Address of first entry - [Stride * Data Width])

All multiplications in the above equation can be performed by using shift operations. The first and second parentheses can be evaluated in parallel and their results added to calculate the address of the last entry of the stream. (page 13 line 18 to page 14 line 8 of the specification, emphasis added)

The above quoted section of applicant's specification provides the only disclosure of applicant's manner of calculating the ending address of data to be transferred. As is seen from the two disclosed formulas, the only "width" value which is utilized to compute the ending address is the "data width" value. As was detailed at paragraph 10 in the prior office action (mailed September 6, 2006), all uses of the term "data width" within the specification is in the context of the size of a data value to be operated upon by the computer system. Therefore, the usage of "data width" in the two equations above also relates to the size of the data, not the size of the bus. Accordingly, the two equations do not show that applicant had possession of an invention that calculated the ending address of a data value through use of the size of the a data bus.

6. Claims 28-41 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As was detailed above, applicant's specification does not provide any disclosure at all that applicant had possession of an invention that calculated the ending address of a data value where that calculation utilized a width (size) of a memory bus. Furthermore, use of a memory bus size would generate an incorrect value in most cases. For example, taking applicant's formula at pg. 13 lines 25-26:

Address of last entry = ((stream length - 1) * stride * data width + address of first entry

and taking the following as example values for the variables:

stream length = 10
stride = 4
data width = 2
address of first entry = 25

the formula reduces to:

$$\text{Address of last entry} = ((10 - 1) * 4 * 2 + 25$$

or the value 97. This example presumed two byte data width. Now, in the situation of a 64-bit wide memory bus (8 bytes), a naive replacement of "data width" with "memory bus width" results in the following formula:

$$\text{Address of last entry} = ((10 - 1) * 4 * 8 + 25$$

or the value 313, which answer does not correspond to the answer 97 given for the correct use of the disclosed formula. Furthermore, ten two byte elements spaced every four bytes can be no longer than 80 bytes total (10 * 2 * 4) and as such, 313 is clearly seen as a nonsensical answer.

Therefore, applicant's specification would leave one of ordinary skill in the art without any guidance as to how to calculate an ending address of a data value by utilizing a memory bus width. Accordingly, applicant's specification fails to enable how to make and/or use the invention.

7. Claims 28-41 are rejected under 35 USC 112, first paragraph, because the best mode contemplated by the invention has not been disclosed. Evidence of concealment of the best mode is based upon the fact that the specification makes absolutely no mention of utilizing a memory bus width in an ending address calculation. Accordingly, if applicant's invention was indeed utilizing a memory bus width as a factor in calculating an ending address, applicant's have clearly concealed their best mode by writing a specification that is totally silent as to how to use a memory bus width factor in the calculation of an ending address for a data value.
8. Claims 28-41 are rejected under 35 USC § 112, first paragraph, as containing subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

As seen from the detailed description above the new aspect introduced into the claims, namely that a memory bus width is utilized in calculating an ending address of a data value is not described in any way by the specification as originally filed. Accordingly, amendment of the claims to include such material is insertion of new matter into the claims. The new matter entered by the amendment of December 8, 2006 is required to be canceled from the claims in any response to this office action.

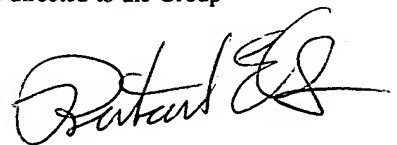
9. Applicant's arguments with respect to claims 28-41 have been considered but are deemed to be moot in view of the new grounds of rejection.
10. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (571) 272-4165. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (571) 272-4162. The fax phone number for the USPTO is: (703)872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.



Richard Ellis
January 18, 2007